

U.S. Patent Application Serial No. 09/446,958
Reply to Communication mailed December 8, 2005

Amendments to the Specification:

Please amend the Specification as follows:

Please amend the paragraph beginning on page 14, line 20 as follows:

Finally, assuming $q = j - n$, we obtain the formula from which we derive the modulation algorithm:

$$s_{k+jM} = \sum_{q=0}^{2L-1} \underbrace{\sum_{m=0}^{2M-1} a_{m,(j-q)} i^{m+(j-q)} (-1)^{m(j-q+L)} e^{2i\pi \frac{m(k+qM)}{2M}}}_{\text{Pre-modulation}} \cdot g_{k+qM} \quad (7)$$

Reverse FFT
Weighting by the prototype function $g(t)$

$$\text{with } \begin{cases} 0 \leq k \leq M-1 \\ j \in \mathbb{Z} \end{cases}$$

Please amend the paragraph beginning on page 24, line 15 as follows:

Resuming the notations given by the formula (2) and taking account of the limited number of coefficients representing the prototype function ($2ML$), we obtain a demodulation formula as follows:

$$\hat{a}_{m,j} \approx \text{Re} \left[\underbrace{\frac{1}{p_{m,j}} \frac{e^{-i\theta_{m,j}} (-i)^{m+j} (-1)^{m(j+L)}}{W}}_{\text{Phase and amplitude correction}} \sum_{k=0}^{2M-1} \underbrace{\left[\sum_{q=0}^{L-1} r_{k+jM+2qM} g_{k+2qM} \right]}_{\text{Weighting by the prototype function}} e^{-2i\pi \frac{k}{2M}} \right] \quad (8)$$

Complex FFT

$$\text{with } \begin{cases} p = jM + 2qM + k \\ 0 \leq k \leq 2M-1 \\ 0 \leq q \leq L-1 \end{cases}$$